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Coyes

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTORNEY DOCKET NO. 029860-0114

Applicants: Andreas MORELL et al.

Title: POLYPEPTIDES CAPABLE OF FORMING ANTIGEN
BINDING STRUCTURES WITH SPECIFICITY FOR THE
RHESUS D ANTIGENS, THE DNA ENCODING THEM AND
THE PROCESS FOR THEIR PREPARATION AND USE

Patent. No.: 7,038,020

Issue Date: 05/02/2006

Examiner: Francois P. Vandervegt

Art Unit: 1644

Confirmation 1730
Number:

Certificate
MAR 09 2007
of Correction

REQUEST FOR CERTIFICATE OF CORRECTION FOR
PURSUANT TO 37 C.F.R. § 1.323

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed, in duplicate, is a Certificate of Correction, Form PTO-SB/44, for United States Patent Number 7,038,020 issued May 2, 2006.

Applicants submit that the noted errors do not constitute new matter, and correction thereof would not require reexamination. Specifically, the noted errors replace references to the original claims with the text thereof, and correct a clerical error in column 16.

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MAR - 9 2007

Pursuant to 37 C.F.R. §1.323, Applicants request that the enclosed Certificate of Correction be approved.

Since at least one of the noted errors is not the fault of the Patent Office, a credit card payment form is enclosed in payment of the required fee of \$100.00. The Commissioner is hereby authorized to charge any additional fees which may be required for this Request, to Deposit Account No. 19-0741.

Respectfully submitted,

March 6, 2007
Date

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Customer Number: 22428
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Beth A. Burrous
Attorney for Applicant
Registration No. 35,087

March - 9 2007

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,038,020

APPLICATION NO. : 09/147,443

DATED : 05/02/2006

INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia
MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE SPECIFICATION:

Col. 3, line 48, please insert --as follows-- after "disclosed"

Col. 3, after line 48, please insert the following paragraphs"

--FIG. 1a is an LD1-40-VH sequence (SEQ ID NOS 1-2);--

--FIG. 1b is an LD1-40-VL sequence (SEQ ID NOS 3-4);--

--FIG. 2a is an LD1-52-VH sequence (SEQ ID NOS 5-6);--

--FIG. 2b is an LD1-52-VL sequence (SEQ ID NOS 7-8);--

--FIG. 3a is an LD1-84-VH sequence (SEQ ID NOS 9-10);--

--FIG. 3b is an LD1-84-VL sequence (SEQ ID NOS 11-12);--

--FIG. 4a is an LD1-110-VH sequence (SEQ ID NOS 13-14);--

--FIG. 4b is an LD1-110-VL sequence (SEQ ID NOS 15-16);--

--FIG. 5a is an LD1-117-VH sequence (SEQ ID NOS 17-18);--

--FIG. 5b is an LD1-117-VL sequence (SEQ ID NOS 19-20);--

--FIG. 6a is an LD2-1-VH sequence (SEQ ID NOS 21-22);--

--FIG. 6b is an LD2-1-VL sequence (SEQ ID NOS 23-24);--

--FIG. 7a is an LD2-4-VH sequence (SEQ ID NOS 25-26);--

--FIG. 7b is an LD2-4-VL sequence (SEQ ID NOS 27-28);--

--FIG. 8a is an LD2-5-VH sequence (SEQ ID NOS 29-30);--

--FIG. 8b is an LD2-5-VL sequence (SEQ ID NOS 31-32);--

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,038,020
APPLICATION NO. : 09/147,443
DATED : 05/02/2006
INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

--FIG. 9a is an LD2-10-VH sequence (SEQ ID NOS 33-34);--
--FIG. 9b is an LD2-10-VL sequence (SEQ ID NOS 35-36);--
--FIG. 10a is an LD2-11-VH sequence (SEQ ID NOS 37-38);--
--FIG. 10b is an LD2-11-VL sequence (SEQ ID NOS 39-40);--
--FIG. 11a is an LD2-14-VH sequence (SEQ ID NOS 41-42);--
--FIG. 11b is an LD2-14-VL sequence (SEQ ID NOS 43-44);--
--FIG. 12a is an LD2-17-VH sequence (SEQ ID NOS 45-46);--
--FIG. 12b is an LD2-17-VL sequence (SEQ ID NOS 47-48);--
--FIG. 13a is an LD2-20-VH sequence (SEQ ID NOS 49-50);--
--FIG. 13b is an LD2-20-VL sequence (SEQ ID NOS 51-52);--
--FIG. 14a is an LD1-6-17-VH sequence (SEQ ID NOS 53-54);--
--FIG. 14b is an LD1-6-17-VL sequence (SEQ ID NOS 55-56);--
--FIG. 15a is an LD1/2-6-3-VH sequence (SEQ ID NOS 57-58);--
--FIG. 15b is an LD1/2-6-3-VL sequence (SEQ ID NOS 59-60);--
--FIG. 16a is an LD1/2-6-33-VH sequence (SEQ ID NOS 61-62); and--
--FIG. 16b is an LD1/2-6-33-VL sequence (SEQ ID NOS 63-64).--

Col. 3, lines 49, delete "the" and insert --a--

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MODIFIED PTO/SB/44 (04-05)

Approved for use through 04/30/2007. OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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PATENT NO. : 7,038,020
APPLICATION NO. : 09/147,443
DATED : 05/02/2006
INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 3, lines 49-50, delete "used according to the present invention"

Col. 3, line 56, insert --following-- after "the", insert --:-- after "definition" and delete "of claim 1"

Col. 3, after line 56, insert the following paragraph:

--Polypeptides capable of forming antigen binding structures with specificity for Rhesus D antigens which include Rhesus D-specific CDR 1, CDR 2 and CDR 3 regions of pairs of amino acid sequences V_H and V_L with the same or different identification numbers according to the figures given in the table below:

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APPLICATION NO. : 09/147,443

DATED : 05/02/2006

INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Identification No.	Figure	V _H			Figure	V _L		
		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.
LD1-40	Fig. 1a	91-105	148-198	295-342	Fig. 1b	64-96	142-162	259-288
LD1-52	Fig. 2a	91-105	148-198	295-342	Fig. 2b	64-96	142-162	259-288
LD1-84	Fig. 3a	91-105	148-198	295-342	Fig. 3b	64-96	142-162	259-285
LD1-110	Fig. 4a	91-105	148-198	295-342	Fig. 4b	64-96	142-162	259-285
LD1-117	Fig. 5a	91-105	148-198	295-345	Fig. 5b	64-96	142-162	259-288
LD2-1	Fig. 6a	91-105	148-198	295-342	Fig. 6b	61-99	145-165	262-294
LD2-4	Fig. 7a	91-105	148-198	295-342	Fig. 7b	64-96	142-162	259-282
LD2-5	Fig. 8a	91-105	148-198	295-342	Fig. 8b	64-96	142-162	259-288
LD2-10	Fig. 9a	91-105	148-198	298-345	Fig. 9b	61-102	148-168	265-294
LD2-11	Fig. 10a	91-105	148-198	295-342	Fig. 10b	64-96	142-162	259-285
LD2-14	Fig. 11a	91-105	148-198	295-342	Fig. 11b	64-96	142-162	259-285
LD2-17	Fig. 12a	91-105	148-198	295-342	Fig. 12b	64-96	142-162	259-285
LD2-20	Fig. 13a	91-105	148-198	295-342	Fig. 13b	64-96	142-162	259-285
LD1-6-17	Fig. 14a	91-105	148-198	295-351	Fig. 14b	64-96	142-162	259-285
LD1/2-6-3	Fig. 15a	91-105	148-198	295-342	Fig. 15b	64-96	142-162	259-285
LD1/2-6-33	Fig. 16a	91-105	148-198	295-342	Fig. 16b	64-96	142-162	259-285

Col. 3, line 57, delete "The table in claim 1 refers to the appended figures."

Col. 3, line 62, insert --above-- after "table" and delete "of claim 1"

Col. 4, line 6, insert --following-- after "the", insert --;-- after "definition" and delete "of claim 6."

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PATENT NO. : 7,038,020

APPLICATION NO. : 09/147,443

DATED : 05/02/2006

INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 4, line 6, delete "Prefered" and insert --Preferred--

Col. 4, line 6, before "Preferred" insert --DNA sequences coding for polypeptides capable of forming antigen binding structures with specificity for Rhesus D antigens which include regions with the Rhesus D-specific CDR 1, CDR 2 and CDR 3 segments of pairs of DNA sequences V_H and V_L with the same or different identification numbers according to the figures given in the table below and functional equivalents thereof:

Identi- fication No.	Figure	V _H			Figure	V _L		
		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.
LD1-40	Fig. 1a	91-105	148-198	295-342	Fig. 1b	64-96	142-162	259-288
LD1-52	Fig. 2a	91-105	148-198	295-342	Fig. 2b	64-96	142-162	259-288
LD1-84	Fig. 3a	91-105	148-198	295-342	Fig. 3b	64-96	142-162	259-285
LD1-110	Fig. 4a	91-105	148-198	295-342	Fig. 4b	64-96	142-162	259-285
LD1-117	Fig. 5a	91-105	148-198	295-345	Fig. 5b	64-96	142-162	259-288
LD2-1	Fig. 6a	91-105	148-198	295-342	Fig. 6b	61-99	145-165	262-294
LD2-4	Fig. 7a	91-105	148-198	295-342	Fig. 7b	64-96	142-162	259-282
LD2-5	Fig. 8a	91-105	148-198	295-342	Fig. 8b	64-96	142-162	259-288
LD2-10	Fig. 9a	91-105	148-198	298-345	Fig. 9b	61-102	148-168	265-294
LD2-11	Fig. 10a	91-105	148-198	295-342	Fig. 10b	64-96	142-162	259-285
LD2-14	Fig. 11a	91-105	148-198	295-342	Fig. 11b	64-96	142-162	259-285
LD2-17	Fig. 12a	91-105	148-198	295-342	Fig. 12b	64-96	142-162	259-285
LD2-20	Fig. 13a	91-105	148-198	295-342	Fig. 13b	64-96	142-162	259-285
LD1-6-17	Fig. 14a	91-105	148-198	295-351	Fig. 14b	64-96	142-162	259-285
LD1/2-6-3	Fig. 15a	91-105	148-198	295-342	Fig. 15b	64-96	142-162	259-285
LD1/2-6-33	Fig. 16a	91-105	148-198	295-342	Fig. 16b	64-96	142-162	259-285

Col. 4, line 13, insert --following-- before "definition", insert --:-- after "definition" and delete --in claim 11--

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,038,020

APPLICATION NO. : 09/147,443

DATED : 05/02/2006

INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 4, after line 13, insert the following paragraph:

--A process for preparing recombinant polypeptides capable of forming antigen binding structures, e.g. Fab fragments, with specificity for Rhesus D antigens, which process comprises the following steps in sequential order:

- a) boosting an individual capable of forming anti-Rhesus D antibodies with Rhesus D positive red blood cells,
- b) isolating mononuclear cells from the individual,
- c) isolating total RNA from the mononuclear cells,
- d) preparing a cDNA by using an oligo(dT) primer, reverse transcribing the mRNA with M-MuLV reverse transcriptase, and amplifying the cDNA repertoire by a polymerase chain reaction using immunoglobulin gene family specific primers,
- e) creating a phage display library by inserting the DNA coding for the heavy and light chain of the Fab polypeptide into a phagemid vector, wherein the DNA for the heavy chain is inserted in frame to the gene coding for the phage protein pIII which allows the expression of a Fab pIII fusion protein on the surface of the phage,
- f) transforming bacterial cells with the obtained recombinant plasmids, cultivating the transformed bacterial cells, and co-expressing the heavy and the light chains of a Fab on filamentous phage particles,
- g) amplifying the Fab-carrying phage in bacteria,

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INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

- h) selecting individual phage clones by several rounds of panning on Rhesus positive red blood cells,
- i) isolating the plasmid DNA from the selected clones and cutting out the gIII gene,
- j) transforming bacterial cells with the obtained plasmid, cultivating the transformed bacterial cells expressing the Fab, and isolating the Fab fragments.--

Col. 4, line 16, delete "claim 12" and insert --the following:--

Col. 4 after line 16 insert the following:

--A process for selecting recombinant polypeptides capable of forming antigen binding structures with specificity for Rhesus D antigens, and in particular showing reactivity with the Partial Rhesus DVI Variant and without any evidence of reactivity with red blood cells of Rhesus negative phenotypes, in particular without reactivity against the Rhesus alleles C, c, E, and e, which process comprises the following steps in sequential order:

- a) performing several negative absorptions on the following red blood cells: phenotype 1 (r'r, Ccddee) treated with bromelase, phenotype 1 not treated with bromelase, phenotype 2 (ryry, CCddEE) treated with bromelase and phenotype 2 not treated with bromelase,
- b) performing a positive absorption on DVI+ red blood cells with or without bromelase treatment,
- c) determining the titer of phage binding to DVI+ red blood cells,

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It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

d) repeating steps a), b) and c) until the titer of phage binding to DVI+ red blood cells has reached a satisfactory level.--

Col. 4, line 18, insert --following-- after "the", insert --:-- after "definition" and delete "of claim 14,"

Col. 14, line 18, before "preferably" insert the following:

--Anti-Rhesus D antibodies having heavy and light chain variable regions comprising the Rhesus D-specific CDR 1, CDR 2 and CDR 3 sequences of pairs of amino acid sequences V_H and V_L having the same or different identification numbers according to the table below:

Identi- fication No.	V_H				V_L			
	Figure	CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.	Figure	CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.
LD1-40	Fig. 1a	91-105	148-198	295-342	Fig. 1b	64-96	142-162	259-288
LD1-52	Fig. 2a	91-105	148-198	295-342	Fig. 2b	64-96	142-162	259-288
LD1-84	Fig. 3a	91-105	148-198	295-342	Fig. 3b	64-96	142-162	259-285
LD1-110	Fig. 4a	91-105	148-198	295-342	Fig. 4b	64-96	142-162	259-285
LD1-117	Fig. 5a	91-105	148-198	295-345	Fig. 5b	64-96	142-162	259-288
LD2-1	Fig. 6a	91-105	148-198	295-342	Fig. 6b	61-99	145-165	262-294
LD2-4	Fig. 7a	91-105	148-198	295-342	Fig. 7b	64-96	142-162	259-282
LD2-5	Fig. 8a	91-105	148-198	295-342	Fig. 8b	64-96	142-162	259-288
LD2-10	Fig. 9a	91-105	148-198	298-345	Fig. 9b	61-102	148-168	265-294
LD2-11	Fig. 10a	91-105	148-198	295-342	Fig. 10b	64-96	142-162	259-285
LD2-14	Fig. 11a	91-105	148-198	295-342	Fig. 11b	64-96	142-162	259-285
LD2-17	Fig. 12a	91-105	148-198	295-342	Fig. 12b	64-96	142-162	259-285
LD2-20	Fig. 13a	91-105	148-198	295-342	Fig. 13b	64-96	142-162	259-285
LD1-6-17	Fig. 14a	91-105	148-198	295-351	Fig. 14b	64-96	142-162	259-285
LD1/2-6-3	Fig. 15a	91-105	148-198	295-342	Fig. 15b	64-96	142-162	259-285
LD1/2-6-33	Fig. 16a	91-105	148-198	295-342	Fig. 16b	64-96	142-162	259-285

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**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**

PATENT NO. : 7,038,020
APPLICATION NO. : 09/147,443
DATED : 05/02/2006
INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia
MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 4, line 18, delete "preferably" and insert --. Preferably the antibodies are--

Col. 16, line 3, insert --18-- after "Figure" and delete "and"

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PATENT NO. : 7,038,020
APPLICATION NO. : 09/147,443
DATED : 05/02/2006
INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE SPECIFICATION:

Col. 3, line 48, please insert --as follows-- after "disclosed"

Col. 3, after line 48, please insert the following paragraphs"

--FIG. 1a is an LD1-40-VH sequence (SEQ ID NOS 1-2);--
--FIG. 1b is an LD1-40-VL sequence (SEQ ID NOS 3-4);--
--FIG. 2a is an LD1-52-VH sequence (SEQ ID NOS 5-6);--
--FIG. 2b is an LD1-52-VL sequence (SEQ ID NOS 7-8);--
--FIG. 3a is an LD1-84-VH sequence (SEQ ID NOS 9-10);--
--FIG. 3b is an LD1-84-VL sequence (SEQ ID NOS 11-12);--
--FIG. 4a is an LD1-110-VH sequence (SEQ ID NOS 13-14);--
--FIG. 4b is an LD1-110-VL sequence (SEQ ID NOS 15-16);--
--FIG. 5a is an LD1-117-VH sequence (SEQ ID NOS 17-18);--
--FIG. 5b is an LD1-117-VL sequence (SEQ ID NOS 19-20);--
--FIG. 6a is an LD2-1-VH sequence (SEQ ID NOS 21-22);--
--FIG. 6b is an LD2-1-VL sequence (SEQ ID NOS 23-24);--
--FIG. 7a is an LD2-4-VH sequence (SEQ ID NOS 25-26);--
--FIG. 7b is an LD2-4-VL sequence (SEQ ID NOS 27-28);--
--FIG. 8a is an LD2-5-VH sequence (SEQ ID NOS 29-30);--
--FIG. 8b is an LD2-5-VL sequence (SEQ ID NOS 31-32);--

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,038,020
APPLICATION NO. : 09/147,443
DATED : 05/02/2006
INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

--FIG. 9a is an LD2-10-VH sequence (SEQ ID NOS 33-34);--
--FIG. 9b is an LD2-10-VL sequence (SEQ ID NOS 35-36);--
--FIG. 10a is an LD2-11-VH sequence (SEQ ID NOS 37-38);--
--FIG. 10b is an LD2-11-VL sequence (SEQ ID NOS 39-40);--
--FIG. 11a is an LD2-14-VH sequence (SEQ ID NOS 41-42);--
--FIG. 11b is an LD2-14-VL sequence (SEQ ID NOS 43-44);--
--FIG. 12a is an LD2-17-VH sequence (SEQ ID NOS 45-46);--
--FIG. 12b is an LD2-17-VL sequence (SEQ ID NOS 47-48);--
--FIG. 13a is an LD2-20-VH sequence (SEQ ID NOS 49-50);--
--FIG. 13b is an LD2-20-VL sequence (SEQ ID NOS 51-52);--
--FIG. 14a is an LD1-6-17-VH sequence (SEQ ID NOS 53-54);--
--FIG. 14b is an LD1-6-17-VL sequence (SEQ ID NOS 55-56);--
--FIG. 15a is an LD1/2-6-3-VH sequence (SEQ ID NOS 57-58);--
--FIG. 15b is an LD1/2-6-3-VL sequence (SEQ ID NOS 59-60);--
--FIG. 16a is an LD1/2-6-33-VH sequence (SEQ ID NOS 61-62); and--
--FIG. 16b is an LD1/2-6-33-VL sequence (SEQ ID NOS 63-64).--

Col. 3, lines 49, delete "the" and insert --a--

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,038,020

APPLICATION NO. : 09/147,443

DATED : 05/02/2006

INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 3, lines 49-50, delete "used according to the present invention"

Col. 3, line 56, insert --following-- after "the", insert --:-- after "definition" and delete "of claim 1"

Col. 3, after line 56, insert the following paragraph:

--Polypeptides capable of forming antigen binding structures with specificity for Rhesus D antigens which include Rhesus D-specific CDR 1, CDR 2 and CDR 3 regions of pairs of amino acid sequences V_H and V_L with the same or different identification numbers according to the figures given in the table below:

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,038,020

APPLICATION NO. : 09/147,443

DATED : 05/02/2006

INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Identification No.	Figure	V _H			Figure	V _L		
		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.
LD1-40	Fig. 1a	91-105	148-198	295-342	Fig. 1b	64-96	142-162	259-288
LD1-52	Fig. 2a	91-105	148-198	295-342	Fig. 2b	64-96	142-162	259-288
LD1-84	Fig. 3a	91-105	148-198	295-342	Fig. 3b	64-96	142-162	259-285
LD1-110	Fig. 4a	91-105	148-198	295-342	Fig. 4b	64-96	142-162	259-285
LD1-117	Fig. 5a	91-105	148-198	295-345	Fig. 5b	64-96	142-162	259-288
LD2-1	Fig. 6a	91-105	148-198	295-342	Fig. 6b	61-99	145-165	262-294
LD2-4	Fig. 7a	91-105	148-198	295-342	Fig. 7b	64-96	142-162	259-282
LD2-5	Fig. 8a	91-105	148-198	295-342	Fig. 8b	64-96	142-162	259-288
LD2-10	Fig. 9a	91-105	148-198	298-345	Fig. 9b	61-102	148-168	265-294
LD2-11	Fig. 10a	91-105	148-198	295-342	Fig. 10b	64-96	142-162	259-285
LD2-14	Fig. 11a	91-105	148-198	295-342	Fig. 11b	64-96	142-162	259-285
LD2-17	Fig. 12a	91-105	148-198	295-342	Fig. 12b	64-96	142-162	259-285
LD2-20	Fig. 13a	91-105	148-198	295-342	Fig. 13b	64-96	142-162	259-285
LD1-6-17	Fig. 14a	91-105	148-198	295-351	Fig. 14b	64-96	142-162	259-285
LD1/2-6-3	Fig. 15a	91-105	148-198	295-342	Fig. 15b	64-96	142-162	259-285
LD1/2-6-33	Fig. 16a	91-105	148-198	295-342	Fig. 16b	64-96	142-162	259-285

Col. 3, line 57, delete "The table in claim 1 refers to the appended figures."

Col. 3, line 62, insert --above-- after "table" and delete "of claim 1"

Col. 4, line 6, insert --following-- after "the", insert --;-- after "definition" and delete "of claim 6."

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,038,020

APPLICATION NO. : 09/147,443

DATED : 05/02/2006

INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 4, line 6, delete "Preferred" and insert --Preferred--

Col. 4, line 6, before "Preferred" insert --DNA sequences coding for polypeptides capable of forming antigen binding structures with specificity for Rhesus D antigens which include regions with the Rhesus D-specific CDR 1, CDR 2 and CDR 3 segments of pairs of DNA sequences V_H and V_L with the same or different identification numbers according to the figures given in the table below and functional equivalents thereof:

Identi- fication No.	Figure	V_H			Figure	V_L		
		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.
LD1-40	Fig. 1a	91-105	148-198	295-342	Fig. 1b	64-96	142-162	259-288
LD1-52	Fig. 2a	91-105	148-198	295-342	Fig. 2b	64-96	142-162	259-288
LD1-84	Fig. 3a	91-105	148-198	295-342	Fig. 3b	64-96	142-162	259-285
LD1-110	Fig. 4a	91-105	148-198	295-342	Fig. 4b	64-96	142-162	259-285
LD1-117	Fig. 5a	91-105	148-198	295-345	Fig. 5b	64-96	142-162	259-288
LD2-1	Fig. 6a	91-105	148-198	295-342	Fig. 6b	61-99	145-165	262-294
LD2-4	Fig. 7a	91-105	148-198	295-342	Fig. 7b	64-96	142-162	259-282
LD2-5	Fig. 8a	91-105	148-198	295-342	Fig. 8b	64-96	142-162	259-288
LD2-10	Fig. 9a	91-105	148-198	298-345	Fig. 9b	61-102	148-168	265-294
LD2-11	Fig. 10a	91-105	148-198	295-342	Fig. 10b	64-96	142-162	259-285
LD2-14	Fig. 11a	91-105	148-198	295-342	Fig. 11b	64-96	142-162	259-285
LD2-17	Fig. 12a	91-105	148-198	295-342	Fig. 12b	64-96	142-162	259-285
LD2-20	Fig. 13a	91-105	148-198	295-342	Fig. 13b	64-96	142-162	259-285
LD1-6-17	Fig. 14a	91-105	148-198	295-351	Fig. 14b	64-96	142-162	259-285
LD1/2-6-3	Fig. 15a	91-105	148-198	295-342	Fig. 15b	64-96	142-162	259-285
LD1/2-6-33	Fig. 16a	91-105	148-198	295-342	Fig. 16b	64-96	142-162	259-285

Col. 4, line 13, insert --following-- before "definition", insert --:-- after "definition" and delete --in claim 11--

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,038,020
APPLICATION NO. : 09/147,443
DATED : 05/02/2006
INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 4, after line 13, insert the following paragraph:

--A process for preparing recombinant polypeptides capable of forming antigen binding structures, e.g. Fab fragments, with specificity for Rhesus D antigens, which process comprises the following steps in sequential order:

- a) boosting an individual capable of forming anti-Rhesus D antibodies with Rhesus D positive red blood cells,
- b) isolating mononuclear cells from the individual,
- c) isolating total RNA from the mononuclear cells,
- d) preparing a cDNA by using an oligo(dT) primer, reverse transcribing the mRNA with M-MuLV reverse transcriptase, and amplifying the cDNA repertoire by a polymerase chain reaction using immunoglobulin gene family specific primers,
- e) creating a phage display library by inserting the DNA coding for the heavy and light chain of the Fab polypeptide into a phagemid vector, wherein the DNA for the heavy chain is inserted in frame to the gene coding for the phage protein pIII which allows the expression of a Fab pIII fusion protein on the surface of the phage,
- f) transforming bacterial cells with the obtained recombinant plasmids, cultivating the transformed bacterial cells, and co-expressing the heavy and the light chains of a Fab on filamentous phage particles,
- g) amplifying the Fab-carrying phage in bacteria,

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INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

- h) selecting individual phage clones by several rounds of panning on Rhesus positive red blood cells,
- i) isolating the plasmid DNA from the selected clones and cutting out the gIII gene,
- j) transforming bacterial cells with the obtained plasmid, cultivating the transformed bacterial cells expressing the Fab, and isolating the Fab fragments.--

Col. 4, line 16, delete "claim 12" and insert --the following:--

Col. 4 after line 16 insert the following:

--A process for selecting recombinant polypeptides capable of forming antigen binding structures with specificity for Rhesus D antigens, and in particular showing reactivity with the Partial Rhesus DVI Variant and without any evidence of reactivity with red blood cells of Rhesus negative phenotypes, in particular without reactivity against the Rhesus alleles C, c, E, and e, which process comprises the following steps in sequential order:

- a) performing several negative absorptions on the following red blood cells: phenotype 1 (r'r, Ccddee) treated with bromelase, phenotype 1 not treated with bromelase, phenotype 2 (ryry, CCddee) treated with bromelase and phenotype 2 not treated with bromelase,
- b) performing a positive absorption on DVI+ red blood cells with or without bromelase treatment,
- c) determining the titer of phage binding to DVI+ red blood cells,

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,038,020
APPLICATION NO. : 09/147,443
DATED : 05/02/2006
INVENTOR(S) : Andreas MORELL; Martin IMBODEN; Beda STADLER; Sylvia MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

d) repeating steps a), b) and c) until the titer of phage binding to DVI+ red blood cells has reached a satisfactory level.--

Col. 4, line 18, insert --following-- after "the", insert --:-- after "definition" and delete "of claim 14,"

Col. 14, line 18, before "preferably" insert the following:

--Anti-Rhesus D antibodies having heavy and light chain variable regions comprising the Rhesus D-specific CDR 1, CDR 2 and CDR 3 sequences of pairs of amino acid sequences V_H and V_L having the same or different identification numbers according to the table below:

Identi- fication No.	Figure	V_H			Figure	V_L		
		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.		CDR 1 base pair No.	CDR 2 base pair No.	CDR 3 base pair No.
LD1-40	Fig. 1a	91-105	148-198	295-342	Fig. 1b	64-96	142-162	259-288
LD1-52	Fig. 2a	91-105	148-198	295-342	Fig. 2b	64-96	142-162	259-288
LD1-84	Fig. 3a	91-105	148-198	295-342	Fig. 3b	64-96	142-162	259-285
LD1-110	Fig. 4a	91-105	148-198	295-342	Fig. 4b	64-96	142-162	259-285
LD1-117	Fig. 5a	91-105	148-198	295-345	Fig. 5b	64-96	142-162	259-288
LD2-1	Fig. 6a	91-105	148-198	295-342	Fig. 6b	61-99	145-165	262-294
LD2-4	Fig. 7a	91-105	148-198	295-342	Fig. 7b	64-96	142-162	259-282
LD2-5	Fig. 8a	91-105	148-198	295-342	Fig. 8b	64-96	142-162	259-288
LD2-10	Fig. 9a	91-105	148-198	298-345	Fig. 9b	61-102	148-168	265-294
LD2-11	Fig. 10a	91-105	148-198	295-342	Fig. 10b	64-96	142-162	259-285
LD2-14	Fig. 11a	91-105	148-198	295-342	Fig. 11b	64-96	142-162	259-285
LD2-17	Fig. 12a	91-105	148-198	295-342	Fig. 12b	64-96	142-162	259-285
LD2-20	Fig. 13a	91-105	148-198	295-342	Fig. 13b	64-96	142-162	259-285
LD1-6-17	Fig. 14a	91-105	148-198	295-351	Fig. 14b	64-96	142-162	259-285
LD1/2-6-3	Fig. 15a	91-105	148-198	295-342	Fig. 15b	64-96	142-162	259-285
LD1/2-6-33	Fig. 16a	91-105	148-198	295-342	Fig. 16b	64-96	142-162	259-285

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Approved for use through 04/30/2007. OMB 0651-0033

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MIESCHER; Monique VOGEL; Hanspeter AMSTUTZ

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 4, line 18, delete "preferably" and insert --. Preferably the antibodies are--

Col. 16, line 3, insert --18-- after "Figure" and delete "and"

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